

Features and applications:

- Absolute Single- and multi-turn rotary encoder with solid shaft or blind hollow shaft
- Interface RS485 protocol
- Available resolution up to 16 bits
- Power supply from 5 to 30 Vdc
- Applied in highest industrial requirements



Model	RNK38-J/RNKM38-J	RNK38-T/RNKM38-T	RNK38-K/RNKM38-K
Housing diameter	Ø 38 mm		
Shaft diameter	Solid with clamp flange Ø 6 mm	Solid with synthro flange Ø 6 mm	Blind hollow shaft Ø4 / 5 / 6 / 8 mm
Output signal	RS485 Protocol (angle, length and velocity output set available)		
Supply voltage	5....30 Vdc or 5 Vdc		
Resolution	12-bits 4096, 16-bits 65536 (set by PLC)		
Rotation turn no.	1 / 4096		
Accuracy	±2 bit		
Consumption	< 30mA (at 24Vdc) without load		
Max.speed	3000 r/min		
Shaft load	Radial 40N, axial 20N		
Protection class	IP65 or IP68		
Starting torque	≤3 Ncm		
Operating Temp.	-25°C....85°C (<-40°C Special make)		
Storage temperature	-40°C....100°C		
Shock resistance	1000m/s ² , 6ms (100g)		
Vibration resistance	10 g		
Connection type	Cable or Connector		
Connection position	Radial / Axial		

Connection

Color	Brown	White	Pink	Black	Green	Yellow	Blue	Gray
Signal	Vcc	0V	4-20mA+	4-20Ma -	RS485A	RS485B	Programmable Setting	Reset

RS485 Protocol definition :

Baud rate: 4800bps. 9600bps. 19200bps. 38400bps. 115200bps.

Frame format: Data 8 bit, stop 1bit no parity check, no control flow

Encoder parameters can be set by getting the command from software. As active mode, encoder transmit data to upper computer. Data length is 16 bits 16 hexadecimal ACSII code with format of XAB>±DATA ✓

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
X	Add.	>	±	DATA											✓

“X”refer to guide letter, > is bit separator ± refer to sign bit, DATA is datum, ASCII code,

10digit combined by 0~9. Range is -9,999,999,999~+9,999,999,999 last one is carriage return (0D)

If encoder is in passive mode, upper computer transmit enquiry command to encoder at 4 bit

16 hexadecimal ACSII code with format of D+AB ✓。

A/B is address of encoder with range of 0~99, X00>+0000000000 ✓

1: Reading Data

Upper computer transmits: D+address+0D	Encoder response: X+address+>+sign bit+ data +0D
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For example: upper computer send: 44 30 31 0D That is send D 01 ✓ receive X01>±0000000012 ✓。	Encoder response: 58 30 31 3E 2B 30 30 30 30 30 30 30 31 32 33 0D
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Use of set function(Gray)

While Encoder need to be reset, connect Gray wire with power supply(24V) wire for 3~5 seconds, remove the Gray wire and the position of encoder shall be defined Zero.

Use of Programmable set (Blue)

In the mode of setting, Put Blue wire and Brown wire together and connect them with power supply wire, while wire connect ground wire. At the time, communication rate of encoder shall be fixed at 19200bps No setting mode, encoder is in normal working condition, it is suggested that connect Blue wire and White wire together with power supply ground wire.

Order Reference:

	1	2	3	4	5	6	7	8
	RNK38 -	XXX	XXX	XX	XXX	X	X	XX
1. Spec. and Series	Single-turn RNK38J RNK38T RNK38K	Multi-turn RNKM38J RNKM38T RNKM38K						
2. Output signal	R4 RS485 R4L RS485 and 4-20mA	R4 R4L						
3. Number of turn	B01 1 turn B02 4096 turn		B01 B02					
4. Resolution per revolution	12 12 bit (4096 resolution) ST 16 16 bit (65536 resolution)			12 16				
5. Mechanical mounting dimension	For details, refer to the mechanical dimension ordering code of RNK58 single- & multi-turn absolute encoder							
6. Protection class and body material	0 Protection class IP65, Aluminum body					0		
7. Connection position	A Axial R Radial						A R	
8. Connection type	A1 Cable Ø6.8mm, 8x2x0.35mm ² , 1m (ST) AC Connector 8 pins							A1 AC